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The Medical Career of Jean-Paul Marat.

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THE "Friend of the People" has been considered an eminent physician or a low-down quack, according to whether the writer admires or condemns Marat's political activities from 1790 to 1793; for it was only then that he became known as the "tiger that would have drunk the blood of his mother from the skull of his father". Previous to these revolutionary years, Jean-Paul was a whole-hearted admirer of Jean Jacques Rousseau (1715-78) that is, a mild humanitarian—in theory. To obtain a complete picture, reference must be made to Marat's works on heat, light and electricity, since he was a keen scientific experimenter during most of his life.

Existing documentation provides a clear impression of "Dr. Marat's" qualifications and practice, so that his significance in relation to medical and scientific progress can be ascertained.

BIOGRAPHICAL NOTES

His father, Giovanni Mara of Cagliari, Sardinia, was an artist or designer and teacher of languages; he married Louise Cabrol of Geneva, the daughter of a wig-maker; these occupations explain some obscure periods in Marat's life, for it has been suggested that at one time he taught "tambouring", i.e. designs for embroidery, and that he had been a hairdresser.

Jean-Paul Marat was born at Boudry, Neuchâtel, May 24, 1743, and at the age of 16 left home to become tutor to a family in Bordeaux; it was probably then that he added a "t" to his name, so as to Frenchify it. He left two years afterwards and it is uncertain what he did or how he lived till he came to London some time in 1766-67; for this we have evidence from Farington's Diary—December 6, 1793—where it is recorded that Marat lodged in St. Martin's Lane and said that he was in England to complete his studies; that he was friendly with Antonio Pietro Zucchi (1726-95)—who later married Angelica Kauffmann—and borrowed £500 from him; medically cured and treated Joseph Bonomi (1759-1808). Where Marat obtained his medical knowledge is unknown; it can be assumed that he was an autodidact by books. Farington mentioned that an apothecary told him that Marat did not conform to common usage in his prescriptions.

After five years residence in Great Britain his first work was published anonymously: *An Essay on the Human Soul* (1772), in this he quoted Albrecht von Haller (1708-77), whom he may have met and several other authorities that were dead—like Boerhaave (1668-1738), Théophile Bonet (1620-80). In this essay, Marat suggested that there were seven senses; to the usual five he added hunger and thirst; he said that nerves carried two fluids, one sensory and the other motor; his evidence was that when a nerve was tied, sensation and motility ceased; he placed the soul in the meningeal membranes. Modern concepts of the soul differ from those of his time, but it is known that by peeling off the *pia mater* the higher faculties of the brain may be impaired; this is, however, due to the resulting lesions to the small blood-vessels and the concurrent circulatory disturbances.

It was in 1811 that Sir Charles Bell (1774-1842) separated the functions of the roots of the spinal nerves and even then, clearly visualizing the function of the anterior roots alone. He completed his discoveries later, recording them in his book on the nervous system in 1830; but meanwhile, in 1822, Francis Magendie (1785-1855) had published experimental proof of the separate different functions of the nerves.

Most biographies of Marat—and there are many—mention that he sent one of his works to Professor Collignon of Cambridge, who wrote praising the book. I have traced Charles Collignon (1725-85), M.D., F.R.S., professor of anatomy, author of: *An Enquiry into the Structure of the Human Body Relative to its Supposed Influence on the Morals of Mankind* (Cambridge, Second Edition, 1764-65), Bentham. *Medicina Politica or Reflections on the Art of Physic as Inseparably Connected with the Prosperity of a State* (Cambridge, 1765), Bentham.

Collignon wrote to Marat on May 1, 1773, a somewhat thin-lipped acknowledgment of the *Essay on the Human Soul* which Marat translated and added to his letter to Philippe-Rose Roume de St. Laurent in 1783. It should be noted that Vellay (1908), p. 49, gives the reference of Collignon to a "somewhat lively description" as occurring on page 857—it obviously should be page 257, Vol. I of the *Essay*.

In Vellay (1908), p. 12, there is the translation of a letter of Marat to a Mr. William Daly, dated from Paris, "December" no year. From the fact that Marat begged to be excused for his faulty English it can be surmised that it was written in the first years of his residence in Great Britain. In it, Marat said that his heart was "as tender as yours"; then explained why he anatomized animals for medical and surgical purposes; that he foresaw the time when experiments on animals would be as universally adopted in France as in England; that he could obtain many cadavers and announced the early appearance next year of his work. He invited Mr. Daly to come and study with him in Paris. At this time (? 1770) it is more than probable that he tried to obtain the acquaintance of John (1728-93) or William Hunter (1718-83) who in 1768 had built the Museum in Great Windmill Street.

So far there is no evidence that Marat was established as a regular medical practitioner in London, but it can be accepted that he practised human and veterinary medicine in Newcastle some time between 1772 and 1774.

The same year Marat went to Holland and, on his way back, stayed in Edinburgh during June and August 1775; it was then that he obtained the degree of M.D. from the University of St. Andrews on the strength of being an *Artium magister*—which seems to have been a bit of wishful thinking; it was of this University that Dr. Samuel Johnson remarked that it had become wealthy by degrees.

Then Marat's first medical tract made its appearance: *An Essay on Gleets. The Defects of the Actual Method of Treating Those Complaints of the Urethra are Pointed Out, and an Effectual Way of Curing Them Indicated* (London; printed for W. Nicoll—no date). This was dedicated from Church Street, Soho, November 21, 1775, to the Worshipful Company of Surgeons in London. The two known copies are in the Library of the Wellcome Research Institution, London. In a footnote on the first page, Marat stated that if his essay should meet with approbation, he would offer to the public a new method of radically curing gonorrhœa in a short time!

In the text Marat described the treatment of three cases of chronic urethritis by means of suitable *bougies*, a method introduced by the Frenchman Jacques Daran (1701-84); one of Marat's patients had been unsuccessfully treated by Daran. Marat's treatment consisted in employing different *bougies* according to the stage of the infection; this seems to be an improvement on Daran's method.

The next tract was: *An Enquiry into the Nature, Cause and Cure of a Singular Disease of the Eyes, Hitherto Unknown, and Yet Common, Produced by the Use of Certain Mercurial Preparations* (London; printed for W. Nicoll—no date). This was addressed to the Royal Society, from Church Street, Soho, January 1, 1776; but its Library does not possess a copy. The only known exemplar is in the Royal Society of Medicine, London; it was discovered by the late Sir John Macalister (1856-1925) in a bundle of tracts forgotten in a basement.

In the text Marat described the treatment of three cases of inflammation of the eyes, in patients having undergone mercurial treatment and said that the condition had been confused with *gutta serena*, a term which implied failing eyesight or approaching blindness, in contrast to *gutta opaca*, or cataract with blurred vision; a medical wit said that *gutta serena* was the ailment when neither physician nor patient could see clearly. In Marat's case this diagnosis had been made by "a Fryar of some repute for curing Diseases of the Eyes". The connexion between mercurial treatment and this ophthalmia cannot be established and Marat's description of the symptoms does not allow one to recognize more than the swelling of the ocular muscles, which might influence the curvature of the lens—thus involving lack of accommodation. Marat did not know this function of the lens, though it had been mentioned in Descartes' *Dioptrica* (1637) but even Thomas Young (1773-1829) in 1792 did not give a complete description of the mechanism of accommodation.

In these cases Marat employed electric sparks to the temples, together with laxatives

and seemingly obtained considerable improvement. In the third patient Marat mentioned "a scorbutic habit" which was cured by "anti-scorbutic Remedies" such as water-cresses, bitter plants, &c. In both tracts there is no lasting contribution to the pathology or therapy of the diseases treated; it is quite believable that by persistent care and attention, Marat did obtain a definite measure of success in these cases. What is most remarkable is that no one would recognize in the obsequious, candid style of these communications, the hand of the bloodthirsty Deputy of *La Montagne* in the Convention of Paris.

Phipson in 1924 ascertained that Marat was not a householder in Church Street, Soho; the prefaces of the two tracts having been dated from there is no evidence whatever that Marat carried on a flourishing medical practice from that address, nor are the dates any proof that Marat was there at the time.

It was at this time that a remarkable incident occurred in Marat's life, no less than a theft from the Ashmolean Museum, Oxford, and his conviction to the hulks at Woolwich. All this has been denied by the majority of his biographers, but the clear evidence available will be quoted elsewhere in the near future.

What is relevant to Marat's medical career is that in May 1777 he was in Paris and called to treat the Marquise de Laubespine, who was suffering from phthisis, as a physician *lately* arrived from England.

A few words may be said about Mme de Laubespine, whose case is described by Cabanés, "Marat Inconnu" Paris, in Chapter VIII entitled: *Marat et les femmes;* but here we prefer to examine her case as one of pulmonary tuberculosis. That she really suffered from the disease can be accepted; five years before she had developed a dry cough, shortly after a confinement; this may well have been the flaring-up of a cryptic infection following pregnancy—a not uncommon occurrence. Notwithstanding treatment, the disease progressed, the patient lost weight, expectoration became purulent. When Marat undertook treatment, he prescribed an emulsion of almonds with salts of nitre, to which he added a secret remedy, which subsequent analysis showed to be an artificial mineral water, similar to that of Harrogate. Then followed laxatives in the shape of *"Sels de policreste"*; further, quinine extracts and Peru balsam, together with fifty drops of ambergris in a cup of cow's milk every morning. Marat does not appear to have performed percussion or auscultation, though Leopold Auenbrugger's (1722-1809) book *Inventum novum* had appeared in 1761 and had been translated into French by Rosière de la Chassagne in 1770. This useful diagnostic method had to be revived in 1808 by Jean-Nicholas Corvisart (1755-1821).

In any case in June and July of 1777 the Marquise was considered to be cured; four years afterwards she was still alive, but her subsequent life-history is unknown; her sudden improvement may well have been due to one of those remissions with temporary relief that occur in tuberculosis of the lungs. Whatever the explanation may have been, Marat's success was skilfully advertised in the *Gazette de Santé* in an article by the Abbé Filassier [? Jacques Joseph Fillassier (1745-99) author and great admirer of Rousseau]. Unfavourable critics also wrote to the *Gazette* and the Marquis de Laubespine replied, defending Marat, who also took part in the debate in December 1777.

It was Mme de Laubespine who recommended Marat to the Comte d'Artois, who then appointed Jean-Paul Marat, "a Doctor of medicine of several faculties in England" as *Médecin du Corps des Gardes* with a brevet dated June 24, 1777—which Cabanés reproduced in facsimile—pp. 104-5.

In consequence of all this, Marat was approached by several patients and entered into correspondence with others outside Paris; soon after Marat was living in an elegant apartment in the Faubourg St. Germain; his practice may well have been extensive and lucrative. How long this prosperity lasted can be approximately ascertained, because by 1783 he was trying very hard to obtain the position as head of a newly formed academy in Madrid and showed a great interest in all things Spanish. He said that his practice had suffered as the result of professional jealousy and slanders—that medicine gave him no satisfaction, when compared with the pursuit of scientific aims. He was not accepted for this post, because some French Academicians spoke and wrote against him; this is quite believable.

Next year Marat's last medical writing was published: *Mémoire sur l'électricité médicale. Couronné le 6. Août* 1783, *par l'Académie Royale des Sciences, Belles Lettres & Arts de Rouen* (Paris, 1784), Jorry. This is probably the best piece of work Marat did; it is mainly concerned with contesting the effects of electricity on various diseases; on p. 2 he mentioned: ". . . *des prétendus miracles opérés par les mains des Pivati, des Verrati, des Brigoti, des Bianchi, &c.*" Much is also said about Abbé Bertholon, who had stated that fever was due to an excess of electricity in the blood. This was Pierre Bertholon (1742-1800) author of: *De l'électricité du corps humain dans l'état de santé et de maladie. Ouvrage couronné par l'Académie de Lyon.* Two vols. (Paris,

1786), Croulbois. Bertholon was a friend of Franklin and member of numerous academies; all the same, his medical observations are obviously superficial; moreover he had suggested preventing earthquakes by planting deep lightning conductors into the earth.

Garrison (1929), p. 327, said that electro-physiology had its origin in the epoch-making experiments on muscle-nerve preparations summarized by Luigi Galvani (1737-98) in: *De viribus electricitatis in motu musculari* (Modena, 1792). John Hunter had studied animal electricity in the torpedo fish (1773), which had been used in therapy by the Romans; Caldani had already experimented on electrical stimulation of the cerebral cortex (1784), but Galvani's discovery of the properties of excised tissues is the starting point of modern work. On the next page Garrison wrote: "Meanwhile Benjamin Franklin (1706-90), Kratzenstein (1745), Schaeffer (1752), G. F. Roessler (electric bath, 1768), Mauduyt (1777), William Henly (1779), and many others were already utilizing electricity in the treatment of disease. Static machines were installed in the Middlesex Hospital in 1767, &c." It is therefore quite evident that Marat did not introduce therapeutic electricity, but rather denied the claims being made by others, though he reported employing electrical sparking with success in his tract on "Eyes". In this *mémoire* Marat mentioned that in 1782 he had noted a slight improvement in the chilblains of three boys treated with electric sparks. He also referred to experiments on animals performed in October 1781 and March 1782. His conclusion was that treatment by electrical sparks or friction was useless in many diseases and in some—such as cancer or epilepsy—might even be harmful, if too violent.

Marat was dealing with a subject that was in its earliest stages and it is difficult to understand Cabanés (1911) who suggested that Marat had foreseen the use of X-rays. Such fantastic assertions are quite common in biographies of Marat.

Early in 1784 the appointment with the Count of Artois was ended, though as the result of an oversight, Marat's name continued to appear in the household list till his successor, Dr. Enguehard of Montpellier, entered the post on April 23, 1786.

This position was both lucrative and dignified; one of the physicians in the same household was Félix Vicq d'Azyr (1748-94) a renowned comparative anatomist. There was a separate veterinarian for the stables.

Once more it becomes difficult to follow Marat's movements or ascertain his means of livelihood; it has been suggested that he returned to England, opened a bookshop in Bristol and failed, being then imprisoned for debt in the name of Maratt Amiatt; if so he was released in December 1787 and in January 1788 was again in Paris. The evidence for the Bristol incident is contradictory but in 1788 the last scientific work of Marat was printed.

A few words will suffice for Marat's investigations of the phenomena of nervous impulses, light, fire, electricity. It has been seen that he propounded that nerves acted through a fluid with dual properties; later on he became obsessed with the theory that fire was a fluid and proved it by means of the so-called solar microscope or lenses combined with a *camera obscura;* the appearance of hot gases was so similar to that of flowing liquids; even Phlogiston was also a fluid! He then attacked Newton in relation to his observations on light; Marat held there were only three primary colours—red, blue, yellow. Electricity was also a fluid: lightning conductors were useless—here he fell foul of Benjamin Franklin. Marat accused Lavoisier of plagiary in relation to Cavendish; some of Marat's admirers have written that he attacked Lavoisier as a *Fermier génèral,* not as a scientist; this is an absurd misstatement; one need only read: *Les charlatans modernes* (1791). Imprimerie Marat.

Not all contemporary notabilities ignored or opposed Marat—Lamarck and Goethe quoted him with approval.

From June 1789 onwards, Marat's activities are relatively well documented; Carlyle was wrong in saying that Marat took part in the attack on the Bastille. Marat soon developed into a fervid revolutionary journalist, voicing his bloodthirsty demands in the columns of *L'Ami du peuple;* his medical and scientific interests faded away, though he found time to print and publish in his press: *Les Charlatans modernes* (1791) in which he expressed, in no measured terms, his rage against various members of the French Academy who had refused to accept his views.

As a Deputy of *La Montagne* and a violent journalist, Marat became influential in revolutionary circles; with the help of Simonne Évrard he was able to issue his paper even when he had to go into hiding.

On July 13, 1793, a comely young woman from Caen, Charlotte Corday d'Armand, obtained an interview whilst he was immersed in his bath; after an exchange of a few words, whilst he was writing down some names, she plunged a knife into his right subclavicular space and killed him. She was arrested and after a brief trial executed the same week.

Cesare Lombroso (1835-1909) examined her skull and found it exhibiting all the characters of the prostitute-criminal type. It is not easy to be serious about many of Professor Lombroso's pronouncements, because he would have detected the same features in a turnip grown in a field belonging to Madame du Barry.

THE DIAGNOSIS OF MARAT'S DERMATOPATHIA

Since 1790—approximately—Marat had suffered from a chronic skin ailment which he said had been contracted whilst hiding underground in cellars and sewers; it was located in the groin and scrotum and was characterized by an intolerable itching, which in an irritable individual like Marat, would give rise to rabid scratching with dirty nails —so that the ailment would become worse and worse; the only relief he could find was by prolonged bathing. Cabanés (1911) concluded that it was eczema; Clifford Bax (1901) p. 131 called it *pruritus,* which can be surmised to mean *Pruritus senilis;* this occurs as the outcome of drying of the skin in old age, but since Marat was assassinated at the age of 50, the diagnosis does not seem applicable. Sir Graham Little suggested that it might have been *Dermatitis herpetiformis,* a chronic and troublesome skin disease which resists most forms of treatment. Eczema would be aggravated by prolonged immersion and the instances of *D. herpetiformis* I have seen were not localized like Marat's affection.

One of the latest authors to discuss Marat's skin disease is G.-S. Juskiewenski—*Jean Paul Marat. Le Médicin, le Savant, le Philosophe, le Journaliste, le Révolutionnaire* (Bordeaux, 1933). This is a graduation thesis and presents the merits and defects of such lucubrations. Juskiewenski suggests that Marat suffered from diabetes; it may be, but we have no means of deciding. The skin ailment is discussed and the learned opinion of a Professor of Dermatology is quoted; he concludes in a manner that recalls the judgment of Dr. Rondibilis. It seems to me that chronic scabies will fit origin, symptoms and localization; the intolerable itching of scabies would be alleviated by bathing. It might be objected that scabies or *"La gâle"* was well known at the time and treatment by sulphur or mercurial ointment accepted as effective. Still, Marat might well have failed in diagnosing the infestation and would not have consulted others; for at the end of the eighteenth century *Acarus scabiei* was not recognized as the cause of itch, though its parasitic nature had been described by Giovan Cosimo Bonomi (1663-96) and Diacinto Cestoni (1637-1718) in a letter to Francesco Redi; this was published in 1687, but remained unnoticed in medical circles, till 1837 when the Corsican physician, Simone Francesco Renucci demonstrated the mite in the Hôpital St. Louis, Paris. Even to-day the diagnosis is not always easy, as the result of scratch effects and for the same reason, at times, treatment is not effective. During the last war and this, I have seen in women and children instances of scabies which were not recognized under ordinary circumstances.

No doubt the skin disease influenced Marat's temperament and would account for some of his violence.

MARAT'S NECROPSY BY J.-F. LOUIS DESCHAMPS (1824)

It can be mentioned that in a letter to an unknown correspondent (ref. Vellay, 1908, p. 8) Marat refused a request to perform a necropsy; he suggested instead the name of M. Boyer, a surgeon who lived two doors away, Rue de Bourgogne. The letter began: *Ma sensibilité, mon cher Comte, ne me permettant d'assister à l'ouverture du corps d'un ami . . . .*

Marat's body was examined anatomically the day after death by the surgeon-in-chief of the *Hôpital de l'Unité, ci-devant Charité.* Cabanés (1911) quoted the full protocol, from which can be gathered that Charlotte Corday's knife had penetrated the space between the first and second right ribs, transfixed the lung, gone through the aorta and entered the left auricle. It is noteworthy that the whole surface of the right lung was found adherent to the pleura; so that at some time, Marat must have suffered from pleurisy. This was probably about 1788-89 when Marat made his will, because he was seriously ill.

When Corday killed Marat he was an ailing man; even so, had he survived, it is more than probable that he would have gone to the guillotine, like Robespierre, St. Just, Couthon, Hébert.

Marat was small, about five feet in height, ugly, not an impressive orator: his French pronunciation was not considered perfect; this is strange, because Neuchâtel is one of the places where good French is spoken. Many pictures of Marat are known, but only three or four can rank as accurate portraits.

WAS MARAT REALLY A PARANOIAC?

Those who believe that Marat was a madman are considering the last three or four years of his life, when many of his utterances were those of a homicidal maniac; it is also mentioned, more than once, that he suggested that if he were placed at the head

of affairs, all would be well; that he wished to become legislative and military dictator. A psychiatric diagnosis should be exact in the description of clinical, pathognomonic symptoms and take into consideration antecedents and previous behaviour of the patient. Here it can be said that the lives of father and mother, brothers and sisters of Marat have been followed and no insanity was obvious in any of them. One brother, Henri Mara, went to Russia and became a teacher in the Imperial Military Academy, under the name of Chevalier de Boudry.

Charles W. Burr—Professor of Mental Diseases, University of Pennsylvania—in: *J. P. Marat, Physician, Revolutionist, Paranoiac, Ann. Med. History,* 1919, 2, 248-61, justified his diagnosis thus:

"He belongs then among the insane, and is an example of paranoia of the political type. He presents the cardinal symptoms of paranoia, intense egoism, delusions of persecution, and an angry grandiosity. He has a common secondary symptom, viz., unlimited verbosity, the matter of his speeches being always the same, the wickedness of his persecutors, his own virtue, wisdom, and unselfishness. He had the paranoiac's intensity of manner in speaking. and the tremendous verbal diarrhœa which deceives the common man, who, overwhelmed by the cataract of talk, goes home feeling that the orator must be a profound thinker because he talks so well. His moral code was wrong, and yet like all paranoiacs he regarded himself as virtuous."

This discernment is thoroughly supported, but to my way of thinking, "mad" to a medical mind must mean "certifiably insane". It is true that Marat fulfilled one of the conditions for certification; he was a danger to his surroundings, for he could inflame the base passions of the populace so that they resorted to bloodshed and plunder. But it should not be forgotten that until he became cognizant of his power of swaying the mob, he behaved sanely, even if somewhat morbidly.

His egotism was not greater than that noticeable in the autobiographies of Benvenuto Cellini or Giacomo Casanova—to mention the first two names I can recall. His "delusions of persecution"—as Burr calls them—though exaggerated, were not figments of a diseased imagination; when Marat accused Frederick, Lord North (1733-92) of having attempted to suppress *"The Chains of Slavery"* it suited the Deputy of *La Montagne* to paint a dark picture of the machinations of a mouthpiece of King George III. Marat often offended those with whom he discussed scientific matters and they retorted by calling him a charlatan. In the Revolution, his enemies would have gladly taken his life, indeed they got it. His angry grandiosity—his violent verbosity—were they really exceptional or abnormal at the time? The life and behaviour of Robespierre, St. Just, Couthon, Hébert did not differ appreciably from that of *L'Ami du Peuple.* Like them, Marat developed into a sanguinary maniac when he found that by yelling: *Les aristos à la lanterne*! brought him the applause of crowds.

Concluding Remarks

Carlyle in his *French Revolution,* Vol. II, wrote: *"Prince d'Artois has withal the strangest horse-leech, a moonstruck, much enduring individual."* It has been seen that Marat obtained a medical degree, practised mainly human medicine and as to being moonstruck or a lunatic—that is a matter of opinion. Marat was not a whole-hearted medical practitioner; he found it a convenient manner for earning a living and to pay for the printing of his philosophical works; but when his practice failed in being remunerative he preferred to revert to his researches on light, fire and electricity. It is evident that he was moderately—quite moderately—successful as a medical practitioner during two or three years in London and Edinburgh—approximately during 1774-75; the vague address "Church Street, Soho" has no real meaning. Had his practice been lucrative then he would not have settled in Paris—for his appointment with the Comte d'Artois was due to Mme de Laubespine's influence. He was very successful in Paris, 1777 to 1780-81, when it was ascertained that he lived in well-furnished apartments in the Rue Bourgogne, Faubourg St. Germain. Eventually his practice declined, as the result of professional jealousy and opposition; he soon had to live penuriously and may well have resorted to different means to make ends meet. Marat's prescriptions can be compared with those of other physicians of his time; they show him to have been a "simplicist", that is, he relied on relatively simple substances for the purpose of treatment. His success with Mme de Laubespine is explainable by the fact that instead of employing antimony, bleeding, &c. his expectant treatment gave the *vis medicatrix naturæ* a chance to improve the health of the patient.

Thus an examination of Marat's medical career allows the conclusion that neither in his methods, outlook or recorded documents, could he be considered a "quack". These abounded in London and Paris at the time; Chevalier Taylor with his florid orations, James Graham and the "Celestial Bed", Mesmer playing on his harmonika, the two Whitworth Farriers, with their "drops" and "red bottles" of medicine, "Dr." Myersbach, the urine-caster and many others besides: all these behaved quite differently from Dr. Marat, whose medical practice seems to have followed orthodox paths.